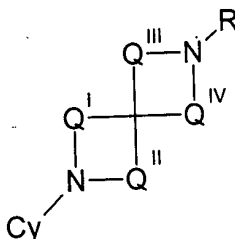


Claims:

1. A compound having the following formula:

Formula 1



5

and pharmaceutically acceptable salts thereof,

wherein  $Q^I$  is  $(CZ_2)_u$ ,  $Q^{II}$  is  $(CZ_2)_v$ ,  $Q^{III}$  is  $(CZ_2)_w$ , and  $Q^{IV}$  is  $(CZ_2)_x$ ,

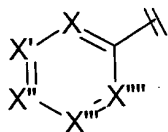
$u, v, w$  and  $x$  are individually 0, 1, 2, 3 or 4, preferably 0, 1, 2 or 3,

$R$  is hydrogen, lower alkyl, acyl, alkoxycarbonyl or aryloxycarbonyl,

10  $Z$  is, individually, selected from the group consisting of hydrogen, alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, heterocyclyl, substituted heterocyclyl, aryl, substituted aryl, alkylaryl, substituted alkylaryl, arylalkyl and substituted arylalkyl;

$Cy$  is a six membered ring of the formula:

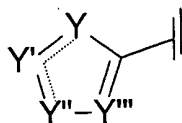
15



where each of  $X, X', X'', X'''$  and  $X''''$  is individually nitrogen, nitrogen bonded to oxygen or carbon bonded to a substituent species, wherein no more than three of  $X,$

X', X'', X''' and X'''' are nitrogen or nitrogen bonded to oxygen,

or Cy is a five 5-membered heteroaromatic ring of the formula:



5

where Y and Y'' are individually nitrogen, nitrogen bonded to a substituent species, oxygen, sulfur or carbon bonded to a substituent species, and Y' and Y''' are nitrogen or carbon bonded to a substituent species,

wherein "substituent species" are, individually, selected from the group  
 consisting of hydrogen, alkyl, substituted alkyl, alkenyl, substituted alkenyl,  
 heterocyclyl, substituted heterocyclyl, cycloalkyl, substituted cycloalkyl, aryl,  
 substituted aryl, alkylaryl, substituted alkylaryl, arylalkyl, substituted arylalkyl, halo, -  
 OR', -NR'R'', -CF<sub>3</sub>, -CN, -NO<sub>2</sub>, -C<sub>2</sub>R', -SR', -N<sub>3</sub>, -C(=O)NR'R'', -NR'C(=O)R'', -  
 C(=O)R', -C(=O)OR', -OC(=O)R', -O(CR'R'')<sub>r</sub>C(=O)R', -O(CR'R'')<sub>r</sub>NR''C(=O)R', -  
 O(CR'R'')<sub>r</sub>NR''SO<sub>2</sub>R', -OC(=O)NR'R'', -NR'C(=O)OR'', -SO<sub>2</sub>R', -SO<sub>2</sub>NR'R'', and -  
 NR'SO<sub>2</sub>R'',

15

where R' and R'' are individually hydrogen, C<sub>1</sub>-C<sub>8</sub> alkyl, cycloalkyl, heterocyclyl, aryl, or arylalkyl, and r is an integer from 1 to 6, or R' and R'' can combine to form a cyclic functionality,

20

wherein the term "substituted" as applied to alkyl, aryl, cycloalkyl and the like refers to the substituents described above, starting with halo and ending with -NR'SO<sub>2</sub>R'', and

wherein the dashed lines indicate that the bonds (between Y and Y' and

between Y' and Y'') can be either single or double bonds, with the proviso that when the bond between Y and Y' is a single bond, the bond between Y' and Y'' must be a double bond and vice versa, where Y or Y'' is oxygen or sulfur, only one of Y and Y'' is either oxygen or sulfur, and at least one of Y, Y', Y'' and Y''' must be oxygen, sulfur,  
5 nitrogen or nitrogen bonded to a substituent species.

2. The compound of claim 1, wherein only one or two of X, X', X'', X''' and X'''' are nitrogen or nitrogen bonded to oxygen.

3. The compound of claim 1, wherein not more than one of X, X', X'', X''' and X'''' are nitrogen bonded to oxygen.

10 4. The compound of claim 1, wherein X''' is nitrogen or nitrogen bonded to oxygen.

5. The compound of claim 1, wherein both X' and X''' are nitrogen.

6. The compound of claim 1, wherein X, X'' and X'''' are carbon bonded to a substituent species.

15 7. The compound of claim 6, where the substituent species at X, X'' and X'''' are hydrogen.

8. The compound of claim 1, wherein X''' is carbon bonded to a substituent species and X and X' are both nitrogen, or X' is carbon bonded to a substituent species and X and X''' are both nitrogen.

20 9. The compound of claim 1, wherein no more than three of Y, Y', Y'' and Y''' are oxygen, sulfur, nitrogen or nitrogen bonded to a substituent species.

10. The compound of claim 1, wherein between one and three of Y, Y', Y'' and Y''' are nitrogen.

11. A pharmaceutical composition including a compound of claim 1.

25 12. A method of treating or preventing a CNS disorder associated with the

release of neurotransmitters mediated by nicotinic receptors, comprising administering an effective amount of a compound of claim 1 to a patient in need of treatment thereof.

13. The method of claim 12, wherein the CNS disorder is selected from the group consisting of pre-senile dementia (early onset Alzheimer's disease), senile dementia (dementia of the Alzheimer's type), Lewy Body dementia, HIV-dementia, multiple cerebral infarcts, Parkinsonism including Parkinson's disease, Pick's disease, Huntington's chorea, tardive dyskinesia, hyperkinesia, mania, attention deficit disorder, anxiety, depression, mild cognitive impairment, dyslexia, schizophrenia and Tourette's syndrome.

14. The method of claim 12, wherein the compound is administered at a dosage effective at treating or preventing the CNS disorder but at a dosage that does not result in appreciable amounts of side effects associated with stimulation of muscle or ganglionic receptors.

15. A method of causing analgesia, reducing inflammation, treating ulcerative colitis, inflammatory and auto-immune diseases, treating neurodegenerative diseases, and/or treating convulsions, comprising administering an effective amount of a compound of claim 1 to a patient in need of treatment thereof.

16. A method of treating bacterial, fungal and/or viral infections, and/or the effects of toxins produced by such infections, comprising administering an effective amount of a compound of claim 1 to a patient in need of treatment thereof.

17. A method of treating inflammatory bowel disease, pouchitis, acute cholangitis, aphthous stomatitis, arthritis, neurodegenerative diseases, Creutzfeld-Jakob disease, cachexia secondary to infection, genetic diseases and disorders, and/or auto-immune disorders comprising administering an effective amount of a compound

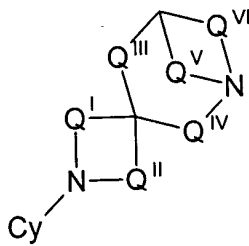
of claim 1 to a patient in need of treatment thereof.

18. A method of inhibiting cytokine release, comprising administering an effective amount of a compound of claim 1 to a patient in need of treatment thereof.

19. A method of treating ulcerative colitis, comprising administering an effective amount of a compound of claim 1 to a patient in need of treatment thereof.

20. A method of causing analgesia, comprising administering an effective amount of a compound of claim 1 to a patient in need of treatment thereof.

21. A compound having the following formula:



Formula 2

and pharmaceutically acceptable salts thereof,

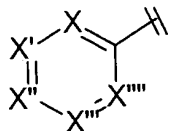
wherein Q<sup>I</sup> is (CZ<sub>2</sub>)<sub>u</sub>, Q<sup>II</sup> is (CZ<sub>2</sub>)<sub>v</sub>, Q<sup>III</sup> is (CZ<sub>2</sub>)<sub>w</sub>, Q<sup>IV</sup> is (CZ<sub>2</sub>)<sub>x</sub>, Q<sup>V</sup> is (CZ<sub>2</sub>)<sub>y</sub> and Q<sup>VI</sup> is (CZ<sub>2</sub>)<sub>z</sub> where u, v, w, x, y and z are individually 0, 1, 2, 3 or 4, and the values of u, v, w, x, y and z are selected such that the bridged diazspirocyclic ring contains 8, 9, 10, 11, 12 or 13 members,

R is hydrogen, lower alkyl, acyl, alkoxycarbonyl or aryloxycarbonyl,

Z is, individually, selected from the group consisting of hydrogen, alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, heterocyclyl, substituted heterocyclyl, aryl, substituted aryl, alkylaryl, substituted alkylaryl, arylalkyl and

substituted arylalkyl;

Cy is a six membered ring of the formula:

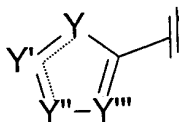


5

where each of X, X', X'', X''' and X'''' is individually nitrogen, nitrogen bonded to oxygen or carbon bonded to a substituent species, wherein no more than three of X, X', X'', X''' and X'''' are nitrogen or nitrogen bonded to oxygen,

or Cy is a five 5-membered heteroaromatic ring of the formula:

10



where Y and Y'' are individually nitrogen, nitrogen bonded to a substituent species, oxygen, sulfur or carbon bonded to a substituent species, and Y' and Y''' are nitrogen or carbon bonded to a substituent species,

15

wherein "substituent species" are, individually, selected from the group consisting of hydrogen, alkyl, substituted alkyl, alkenyl, substituted alkenyl, heterocyclyl, substituted heterocyclyl, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, alkylaryl, substituted alkylaryl, arylalkyl, substituted arylalkyl, halo, -OR', -NR'R'', -CF<sub>3</sub>, -CN, -NO<sub>2</sub>, -C<sub>2</sub>R', -SR', -N<sub>3</sub>, -C(=O)NR'R'', -NR'C(=O)R'', -C(=O)R', -C(=O)OR', -OC(=O)R', -O(CR'R'')<sub>n</sub>C(=O)R', -O(CR'R'')<sub>n</sub>NR''C(=O)R', -

20

$O(CR'R'')_rNR''SO_2R'$ ,  $-OC(=O)NR'R''$ ,  $-NR'C(=O)OR''$ ,  $-SO_2R'$ ,  $-SO_2NR'R''$ , and  $-NR'SO_2R''$ ,

where  $R'$  and  $R''$  are individually hydrogen,  $C_1$ - $C_8$  alkyl, cycloalkyl, heterocyclyl, aryl, or arylalkyl, and  $r$  is an integer from 1 to 6, or  $R'$  and  $R''$  can

5 combine to form a cyclic functionality,

wherein the term "substituted" as applied to alkyl, aryl, cycloalkyl and the like refers to the substituents described above, starting with halo and ending with  $-NR'SO_2R''$ , and

wherein the dashed lines indicate that the bonds (between  $Y$  and  $Y'$  and between  $Y'$  and  $Y''$ ) can be either single or double bonds, with the proviso that when the bond between  $Y$  and  $Y'$  is a single bond, the bond between  $Y'$  and  $Y''$  must be a double bond and vice versa, where  $Y$  or  $Y''$  is oxygen or sulfur, only one of  $Y$  and  $Y''$  is either oxygen or sulfur, and at least one of  $Y$ ,  $Y'$ ,  $Y''$  and  $Y'''$  must be oxygen, sulfur, nitrogen or nitrogen bonded to a substituent species.

15 22. The compound of claim 21, wherein only one or two of  $X$ ,  $X'$ ,  $X''$ ,  $X'''$  and  $X''''$  are nitrogen or nitrogen bonded to oxygen.

23. The compound of claim 21, wherein not more than one of  $X$ ,  $X'$ ,  $X''$ ,  $X'''$  and  $X''''$  are nitrogen bonded to oxygen.

20 24. The compound of claim 21, wherein  $X'''$  is nitrogen or nitrogen bonded to oxygen.

25. The compound of claim 21, wherein both  $X'$  and  $X'''$  are nitrogen.

26. The compound of claim 21, wherein  $X$ ,  $X''$  and  $X''''$  are carbon bonded to a substituent species.

25 27. The compound of claim 26, where the substituent species at  $X$ ,  $X''$  and  $X''''$  are hydrogen.

28. The compound of claim 21, wherein X<sup>'''</sup> is carbon bonded to a substituent species and X and X' are both nitrogen, or X' is carbon bonded to a substituent species and X and X<sup>'''</sup> are both nitrogen.

29. The compound of claim 21, wherein no more than three of Y, Y', Y'' and Y<sup>'''</sup> be oxygen, sulfur, nitrogen or nitrogen bonded to a substituent species.

30. The compound of claim 21, wherein between one and three of Y, Y', Y'' and Y<sup>'''</sup> are nitrogen.

31. A pharmaceutical composition including a compound of claim 21.

32. A method of treating or preventing a CNS disorder associated with the release of neurotransmitters mediated by nicotinic receptors, comprising administering an effective amount of a compound of claim 21 to a patient in need of treatment thereof.

33. The method of claim 32, wherein the CNS disorder is selected from the group consisting of pre-senile dementia (early onset Alzheimer's disease), senile dementia (dementia of the Alzheimer's type), Lewy Body dementia, HIV-dementia, multiple cerebral infarcts, Parkinsonism including Parkinson's disease, Pick's disease, Huntington's chorea, tardive dyskinesia, hyperkinesia, mania, attention deficit disorder, anxiety, depression, mild cognitive impairment, dyslexia, schizophrenia and Tourette's syndrome.

34. The method of claim 32, wherein the compound is administered at a dosage effective at treating or preventing the CNS disorder but at a dosage that does not result in appreciable amounts of side effects associated with stimulation of muscle or ganglionic receptors.

35. A method of causing analgesia, reducing inflammation, treating ulcerative colitis, inflammatory and auto-immune diseases, treating neurodegenerative



diseases, and/or treating convulsions, comprising administering an effective amount of a compound of claim 21 to a patient in need of treatment thereof.

5 36. A method of treating bacterial, fungal and/or viral infections, and/or the effects of toxins produced by such infections, comprising administering an effective amount of a compound of claim 21 to a patient in need of treatment thereof.

37. A method of treating inflammatory bowel disease, pouchitis, acute cholangitis, aphthous stomatitis, arthritis, neurodegenerative diseases, Creutzfeld-Jakob disease, cachexia secondary to infection, genetic diseases and disorders, and/or auto-immune disorders comprising administering an effective amount of a compound of claim 21 to a patient in need of treatment thereof.

38. A method of inhibiting cytokine release, comprising administering an effective amount of a compound of claim 21 to a patient in need of treatment thereof.

39. A method of treating ulcerative colitis, comprising administering an effective amount of a compound of claim 21 to a patient in need of treatment thereof.

15 40. A method of causing analgesia, comprising administering an effective amount of a compound of claim 21 to a patient in need of treatment thereof.

41. A compound selected from the group consisting of:

7-(3-pyridyl)-1,7-diazaspiro[4.4]nonane

7-(5-pyrimidinyl)-1,7-diazaspiro[4.4]nonane

20 7-(5-isoxazolyl)-1,7-diazaspiro[4.4]nonane

7-(5-isothiazolyl)-1,7-diazaspiro[4.4]nonane

7-(5-(1,2,4-oxadiazol)yl)-1,7-diazaspiro[4.4]nonane

7-(2-(1,3,4-oxadiazol)yl)-1,7-diazaspiro[4.4]nonane

7-(2-pyrazinyl)-1,7-diazaspiro[4.4]nonane

25 7-(3-pyridazinyl)-1,7-diazaspiro[4.4]nonane

- 7-(5-methoxy-3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 7-(5-cyclopentyloxy-3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 7-(5-phenoxy-3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 7-(5-(4-hydroxyphenoxy)-3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 5 7-(5-ethynyl-3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 7-(6-chloro-3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 7-(6-methoxy-3-pyridazinyl)-1,7-diazaspiro[4.4]nonane
- 1-(3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 1-(5-pyrimidinyl)-1,7-diazaspiro[4.4]nonane
- 10 1-(5-isoxazolyl)-1,7-diazaspiro[4.4]nonane
- 1-(5-isothiazolyl)-1,7-diazaspiro[4.4]nonane
- 1-(5-(1,2,4-oxadiazol)yl)-1,7-diazaspiro[4.4]nonane
- 1-(2-(1,3,4-oxadiazol)yl)-1,7-diazaspiro[4.4]nonane
- 1-(2-pyrazinyl)-1,7-diazaspiro[4.4]nonane
- 15 1-(3-pyridazinyl)-1,7-diazaspiro[4.4]nonane
- 1-methyl-7-(3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 1-methyl-7-(5-pyrimidinyl)-1,7-diazaspiro[4.4]nonane
- 1-methyl-7-(5-isoxazolyl)-1,7-diazaspiro[4.4]nonane
- 1-methyl-7-(5-isothiazolyl)-1,7-diazaspiro[4.4]nonane
- 20 1-methyl-7-(5-(1,2,4-oxadiazol)yl)-1,7-diazaspiro[4.4]nonane
- 1-methyl-7-(2-(1,3,4-oxadiazol)yl)-1,7-diazaspiro[4.4]nonane
- 1-methyl-7-(2-pyrazinyl)-1,7-diazaspiro[4.4]nonane
- 1-methyl-7-(3-pyridazinyl)-1,7-diazaspiro[4.4]nonane
- 1-methyl-7-(5-methoxy-3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 25 1-methyl-7-(5-cyclopentyloxy-3-pyridyl)-1,7-diazaspiro[4.4]nonane

- 1-methyl-7-(5-phenoxy-3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 1-methyl-7-(5-(4-hydroxyphenoxy)-3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 1-methyl-7-(5-ethynyl-3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 1-methyl-7-(6-chloro-3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 5 1-methyl-7-(6-methoxy-3-pyridazinyl)-1,7-diazaspiro[4.4]nonane
- 7-methyl-1-(3-pyridyl)-1,7-diazaspiro[4.4]nonane
- 7-methyl-1-(5-pyrimidinyl)-1,7-diazaspiro[4.4]nonane
- 7-methyl-1-(5-isoxazolyl)-1,7-diazaspiro[4.4]nonane
- 7-methyl-1-(5-isothiazolyl)-1,7-diazaspiro[4.4]nonane
- 10 7-methyl-1-(5-(1,2,4-oxadiazol)yl)-1,7-diazaspiro[4.4]nonane
- 7-methyl-1-(2-(1,3,4-oxadiazol)yl)-1,7-diazaspiro[4.4]nonane
- 7-methyl-1-(2-pyrazinyl)-1,7-diazaspiro[4.4]nonane
- 7-methyl-1-(3-pyridazinyl)-1,7-diazaspiro[4.4]nonane
- 2-(3-pyridyl)-2,7-diazaspiro[4.4]nonane
- 15 2-(5-pyrimidinyl)-2,7-diazaspiro[4.4]nonane
- 2-(5-isoxazolyl)-2,7-diazaspiro[4.4]nonane
- 2-(5-isothiazolyl)-2,7-diazaspiro[4.4]nonane
- 2-(5-(1,2,4-oxadiazol)yl)-2,7-diazaspiro[4.4]nonane
- 2-(2-(1,3,4-oxadiazol)yl)-2,7-diazaspiro[4.4]nonane
- 20 2-(2-pyrazinyl)-2,7-diazaspiro[4.4]nonane
- 2-(3-pyridazinyl)-2,7-diazaspiro[4.4]nonane
- 2-(5-methoxy-3-pyridyl)-2,7-diazaspiro[4.4]nonane
- 2-(5-cyclopentyloxy-3-pyridyl)-2,7-diazaspiro[4.4]nonane
- 2-(5-phenoxy-3-pyridyl)-2,7-diazaspiro[4.4]nonane
- 25 2-(5-(4-hydroxyphenoxy)-3-pyridyl)-2,7-diazaspiro[4.4]nonane

- 2-(5-ethynyl-3-pyridyl)-2,7-diazaspiro[4.4]nonane  
2-(6-chloro-3-pyridyl)-2,7-diazaspiro[4.4]nonane  
2-(6-methoxy-3-pyridazinyl)-2,7-diazaspiro[4.4]nonane  
2-methyl-7-(3-pyridyl)-2,7-diazaspiro[4.4]nonane  
5 2-methyl-7-(5-methoxy-3-pyridyl)-2,7-diazaspiro[4.4]nonane  
2-methyl-7-(5-phenoxy-3-pyridyl)-2,7-diazaspiro[4.4]nonane  
6-(3-pyridyl)-1,6-diazaspiro[3.4]octane  
1-methyl-6-(3-pyridyl)-1,6-diazaspiro[3.4]octane  
2-(3-pyridyl)-2,5-diazaspiro[3.4]octane  
10 5-methyl-2-(3-pyridyl)-2,5-diazaspiro[3.4]octane  
6-(3-pyridyl)-1,6-diazaspiro[3.5]nonane  
1-methyl-6-(3-pyridyl)-1,6-diazaspiro[3.5]nonane  
2-(3-pyridyl)-2,5-diazaspiro[3.5]nonane  
5-methyl-2-(3-pyridyl)-2,5-diazaspiro[3.5]nonane  
15 2-(3-pyridyl)-2,6-diazaspiro[4.5]decane  
6-methyl-2-(3-pyridyl)-2,6-diazaspiro[4.5]decane  
7-(3-pyridyl)-1,7-diazaspiro[4.5]decane  
1-methyl-7-(3-pyridyl)-1,7-diazaspiro[4.5]decane  
8-(3-pyridyl)-1,8-diazaspiro[5.5]undecane  
20 1-methyl-8-(3-pyridyl)-1,8-diazaspiro[5.5]undecane and  
pharmaceutically acceptable salts thereof.  
42. A compound selected from the group consisting of:  
1'-(3-pyridyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]  
1'-(5-ethoxy-3-pyridyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]  
25 1'-(5-cyclopentyloxy-3-pyridyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]

- 1'-(5-phenoxy-3-pyridyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]
- 1'-(5-(4-hydroxyphenoxy)-3-pyridyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]
- 1'-(5-pyrimidinyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]
- 5 1'-(5-isoxazolyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]
- 1'-(5-isothiazolyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]
- 1'-(5-(1,2,4-oxadiazol)yl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]
- 1'-(2-(1,3,4-oxadiazol)yl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]
- 1'-(2-pyrazinyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]
- 10 1'-(3-pyridazinyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]
- 1'-(5-ethynyl-3-pyridyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]
- 1'-(6-chloro-3-pyridyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]
- 1'-(6-methoxy-3-pyridazinyl)-spiro[1-azabicyclo[2.2.1]heptane-2,3'-pyrrolidine]
- 1'-(3-pyridyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]
- 15 1'-(5-methoxy-3-pyridyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]
- 1'-(5-cyclopentyloxy-3-pyridyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]
- 1'-(5-phenoxy-3-pyridyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]
- 1'-(5-(4-hydroxyphenoxy)-3-pyridyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]
- 1'-(5-ethynyl-3-pyridyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]
- 20 1'-(6-chloro-3-pyridyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]
- 1'-(5-pyrimidinyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]
- 1'-(2-pyrazinyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]
- 1'-(3-pyridazinyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]
- 1'-(6-methoxy-3-pyridazinyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]
- 25 1'-(5-isoxazolyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]

- 1'-(5-isothiazolyl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]  
1'-(5-(1,2,4-oxadiazol)yl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]  
1'-(2-(1,3,4-oxadiazol)yl)-spiro[1-azabicyclo[2.2.2]octane-2,3'-pyrrolidine]  
1'-(3-pyridyl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-pyrrolidine]  
5 1'-(5-methoxy-3-pyridyl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-pyrrolidine]  
1'-(5-cyclopentyloxy-3-pyridyl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-  
pyrrolidine]  
1'-(5-phenoxy-3-pyridyl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-pyrrolidine]  
1'-(5-(4-hydroxyphenoxy)-3-pyridyl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-  
10 pyrrolidine]  
1'-(6-chloro-3-pyridyl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-pyrrolidine]  
1'-(5-pyrimidinyl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-pyrrolidine]  
1'-(2-pyrazinyl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-pyrrolidine]  
1'-(3-pyridazinyl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-pyrrolidine]  
15 1'-(6-methoxy-3-pyridazinyl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-pyrrolidine]  
1'-(5-isoxazolyl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-pyrrolidine]  
1'-(5-isothiazolyl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-pyrrolidine]  
1'-(5-(1,2,4-oxadiazol)yl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-pyrrolidine]  
1'-(2-(1,3,4-oxadiazol)yl)-2'H-spiro[1-azabicyclo[2.2.1]heptane-7,3'-pyrrolidine] and  
20 pharmaceutically acceptable salts thereof.

43. A pharmaceutical composition comprising an effective amount of a compound of claim 41.

44. A pharmaceutical composition comprising an effective amount of a compound of claim 42.